

In the claims:

1-4. (Cancelled)

3 ~~8.~~ (Currently Amended) ~~A method of claim 1~~ ² The method of claim 13 wherein said damascene structure is a dual damascene structure.

13 ~~6.~~ (Currently Amended) ~~A method of claim 1~~ ¹ The method of claim 12 wherein said metal isolation technique step of removing titanium nitride is by CMP.

7 ~~7.~~ (Currently Amended) The method of ~~claim 4~~ ⁶ claim 14 wherein said etch-stop layer is silicon nitride.

10 ~~8.~~ (Currently Amended) The method of ~~claim 1~~ ⁹ claim 16 wherein said etching through said contact hole pattern in said second photoresist layer into said ILD layer is performed with a mixture comprising gases of Ar, CHF₃ and C₄F₈.

5 ~~9.~~ (Currently Amended) The method of ~~claim 3~~ ⁴ claim 17 wherein said cleaning is performed by RIE.

12 ~~10.~~ (Currently Amended) The method of ~~claim 1~~ ⁸ claim 15 wherein said etching through said line trench pattern of said first photoresist layer into said IMD layer is performed with a mixture comprising gases of O₂, He and CF₄.

11. (Original) The method of claim 8 wherein said etching through said line trench pattern in said first photoresist layer into said IMD layer is performed until said etch-stop layer is reached.

12. (New) A method for fabricating a damascene structure comprising at least one conductive metal line formed in a top dielectric layer over a substrate, said damascene structure characterized by improved resistance and acceptable adhesion, said method comprising the steps of:

providing a structure comprising a substrate and a top dielectric layer above said first dielectric layer;

forming a trench having sidewalls and a bottom for at least one conductive line in said top dielectric layer;

physical vapor depositing (PVD) a titanium nitride layer to obtain a liner having very poor step coverage such that the top surface of said top dielectric layer is covered with a layer of titanium nitride and the sidewalls of said at least one trench are substantially covered with a layer of titanium nitride while the bottom of said at least one trench is left substantially free of titanium nitride during said PVD deposition;

removing the titanium nitride from the surface of the top dielectric layer and leaving the titanium nitride on the sidewalls intact; and

depositing tungsten into said damascene structure so as to fill said contact hole/via and said at least one trench.

13. (New) The method of claim 12 wherein said step of providing a structure further comprises a bottom dielectric layer between the substrate and the top dielectric layer, said

method further comprising the step of forming at least one contact hole/via extending from the bottom of said trench formed in the top dielectric layer and through said bottom dielectric layer to said substrate and filling said contact hole/via together with said at least one trench with tungsten.

6 14. (New) The method of claim 13² wherein said step of providing a structure further comprises an etch stop layer between said top dielectric layer and said bottom dielectric layer.

8 15. (New) The method of claim 14⁶ wherein said bottom dielectric layer is an ILD (inter level dielectric) layer formed of silicon oxide and said top dielectric layer is an IMD (inter metal dielectric) layer formed of a material selected from the group consisting of phosphosilicate glass (PSG) and an oxide formed by the decomposition of tetraethyl orthosilicate (TEOS)

9 16. (New) The method of claim 15⁸ further comprising the steps of forming and patterning a first layer of photoresist having an image of said trench prior to said step of forming a trench and forming and patterning a second layer of photoresist having an image of said contact hole/via prior to said step of forming at least one contact hole.

4 17. (New) The method of claim 16² further comprising the step of cleaning said contact hole/via prior to depositing tungsten.

1 18. (New) The method of claim 17¹ wherein said step of removing titanium nitride comprises removing with a reactive ion etch (RIE) using a mixture of SF₆, HBr and CCL₄